



EPA Regulatory Update: MRL harmonization activities



2016 MRL Harmonization Workshop

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Office of Pesticide Programs
U.S. Environmental Protection Agency

Barbara Madden, Minor Use Team Leader
Registration Division
madden.barbara@epa.gov

David J. Miller, Chief, Chemistry & Exposure Branch
Health Effects Division
miller.davidj@epa.gov

Outline

- International Involvements
 - International goals of OPP
 - OPP Opportunities to affect international MRLs
- Update on Status of Current Activities
 - Global Joint Reviews
 - Crop Grouping
 - Harmonization of Crop Group MRLs
 - Global Zoning
 - CCPR48

OPP International Goals

❑ **Goal #1: Strengthening Protection**

- Strengthen food safety, public health and environmental protection, domestically and globally

❑ **Goal # 2: Enhance Regulatory Decisions through Collaboration**

- Improve science base and enhance regulatory efficiency by leveraging scientific and regulatory resources with the international community

❑ **Goal # 3: Conserve Resources**

- Conserve resources of U.S. consumers, growers, and industry stakeholders through more efficient and coordinated regulatory processes

❑ **Goal # 4: Minimize Barriers**

- Minimize international trade issues related to pesticide regulatory requirements & facilitate trade and fair competition

Opportunities/Involvements

- ❑ **Codex Alimentarius**: Codex Committee on Pesticide Residues (CCPR) ; Joint Meeting on Pesticide Residues (JMPR) ; Joint Meeting on Pesticide Management (JMPM); Codex Alimentarius Commission (CAC)
- ❑ **OECD**: Working Group on Pesticides; Registration and Risk Reduction Steering Groups; Expert Groups; Test Guideline Program; Task Force on Biocides; Biopesticides Steering Group
- ❑ **NAFTA**: Technical Working Group on Pesticides (TWG); Regulatory Cooperation Council (RCC)
- ❑ **APEC**
- ❑ **Other Opportunities**: Global Joint Reviews; Trade Negotiations; Bilateral Partnerships; Commodity/Chemical Specific issues

MRLs: Codex Committee on Pesticide Residues (CCPR) / Codex Alimentarius Commission (CAC);

- ❑ Food safety standards.
- ❑ U.S. priorities
 - Ensure timely adoption of MRLs.
 - Sound science.
 - Promotes consumer health and fair trade practices.

FAO/WHO: Joint Meeting on Pesticide Residues (JMPR)

- ❑ Special review of glyphosate, diazinon, and malathion in May, 2016
 - Re-evaluating carcinogenicity in light of IARC classification
 - See [JMPR Summary Report](#)

- ❑ "Less-than-lifetime" dietary exposure and risk
 - Model effects from exposures longer than 1 day but less than a lifetime.

OECD Test Guideline Program

- Update on guidelines
 - 6 new test guidelines approved (4 co-lead or lead by U.S.)
 - 11 test guidelines updated (3 co-lead by U.S.)
 - 25 new projects approved (4 lead by U.S.)

- Other activities
 - Coordinate with ICCVAM
 - Endocrine Disruptors

NAFTA Technical Working Group on Pesticides

MRLs

- Importance of regulatory cooperation on MRLs

2016-2021 Strategic plan

- Facilitate trade
- Encourage joint reviews
- Cooperate on science and regulatory issues

Other opportunities

NAFTA Regulatory Cooperation Council

- Regulatory Cooperation Council (RCC) built on the success of past NAFTA initiatives.
- As a result of the RCC pilot - minor use joint reviews can now include import MRL/tolerance requests for commodities not grown in the importing countries if the agencies are petitioned.
- Proposed revisions to the field trial requirements for a “NAFTA submission” have been considered. This could allow for joint field trial requirements where a 20-50% reduction in the number of trials required in each country, depending on the specific crop, but PMRA and EPA will receive more data.

NAFTA Regulatory Cooperation Council

Guideline for Reduced Residue Field Trial Requirements

- Development of a guideline entitled "Guideline for Reduced Residue Field Trial Requirements to support Joint Projects between Canada and the United States".
- A draft of this document has been circulated to stakeholders for review. IR-4 and PMC have provided comments. Crop Life requested has provided comments.
- Since the final document will not be available for the upcoming 2016 field trial season, EPA and PMRA agree that for the 2016 season only, these draft requirements can be used for joint projects conducted by PMC and IR-4.

NAFTA Regulatory Cooperation Council

- Strong partnership between EPA and PMRA regarding work-sharing and joint reviews of new active ingredients, use expansions and minor uses routine business.
- IR-4 and PMC cooperatively conduct joint residue trials for projects identified by the minor use/specialty crop growers in both countries.
- Crop grouping effort involving NAFTA partners (EPA, IR-4, PMRA & PMC), the International Crop Grouping Consulting Committee (ICGCC) and Codex to evaluate crop groups.

Asia-Pacific Economic Cooperation

- APEC has 21 members (**Australia, Brunei, Canada, Chile**, People's Republic of China, Hong Kong-China, Indonesia, **Japan**, Republic of Korea, **Malaysia**, Mexico, **New Zealand**, Papua New Guinea, **Peru**, The Philippines, Russia, **Singapore**, Chinese Taipei, Thailand, **The United States**, and **Viet Nam**).
- U.S. EPA OPP is participating in the APEC Food Safety Cooperation Forum/Food Standards of Australia and New Zealand (FSANZ).

Bold = included in Trans-Pacific Partnership Agreement (TPP)

Asia-Pacific Economic Cooperation

- Co-Chaired a Workshop on the *Harmonization of Pesticide Maximum Residue Limits (MRLs) for Imported Foods in APEC Member Countries*.
 - Primary goal: to develop a guidance document for establishing import MRLs for imported foods where no domestic equivalent MRL exists.
 - Expected to facilitate the utilisation of the APEC Import Maximum Residue Limit (MRL) Guideline for Pesticides throughout APEC member economies to enhance trade and regulatory convergence.
- The 2nd Expert Workshop was held on the margins of the 5th APEC Food Safety Cooperation Forum in the Philippines in August of 2015
 - Completed draft document “IMPORT MRL GUIDELINE FOR PESTICIDES”
 - Status update provided in [CRD28](#) at CCPR48/Chongqing
 - Currently being reviewed/endorsed through the APEC fora.
 - Next Steps: implementation Workshop; awareness-building; stakeholder engagement; In-country training to build technical expertise to effectively implement the Guideline

Global Joint Review

- Global joint review process for review of new active ingredients.
 - Goal – align regulatory endpoints, MRLs and decisions to extent possible.
 - Countries involved continues to increase (Australia, Brazil, Canada, China, EU member states, Japan, Korea, Mexico).
 - Expansion of companies involved.

New Active Ingredient Joint Reviews

Twenty-seven Joint Reviews completed since 2007

- Pyrasulfotole – herbicide (AU, CA, US) - 2007
- Spinetoram – insecticide (CA, US) - 2007
- Chlorantraniliprole – insecticide (AU, CA, EU (IR, UK), NZ, US - 2008
- Pyroxsulam – herbicide (AU, CA, US) - 2008
- Spirotetramat – insecticide (CA, EU (AT), US) - 2008
- Thiencarbazone – herbicide (CA, EU (UK), US) - 2008
- Saflufenacil – herbicide (AU, CA, US) – 2009/10
- Sedaxane – fungicide (AU, CA, US) – 2011/12
- Ametoctradin – fungicide (AU, CA, US) – 2012

New Active Ingredient Joint Reviews (continued)

- Fluopyram – fungicide (CA, EU (DE), US) - 2012
- Fluxapyroxad – fungicide (AU, CA, US) – 2012
- Penflufen – fungicide (AU, CA, US) - 2012
- Penthiopyrad – fungicide (AU, CA, EU (UK), US) - 2012
- Picoxystrobin – fungicide (CA, US) - 2012
- Pyroxasulfone – herbicide (AU, CA, US) – 2012
- Sulfoxaflor – insecticide (AU, CA, US) – 2012/13
- Cyantraniliprole – insecticide (AU, CA, EU (FR, UK), US) – 2013
- Cyflumetofen – miticide (CA, MX, US) – 2014
- Fluensulfone – nematicide (AU, CA, US) – 2014 **
- Halauxifen-methyl – herbicide (AU, CA, US) – 2014 *
- Isofetamid – fungicide (CA, US) - 2014
- Momfluorothrin – insecticide (CA, US) - 2015

New Active Ingredient Joint Reviews (continued)

- Bicyclopyrone – herbicide (AU, CA, US) – 2015
- Flupyradifurone – insecticide (AU, CA, MX, US) – 2015
- Benzovindiflupyr – fungicide (CA, MX, US) – 2015
- Oxathiopiprolin – fungicide (AU, CA, CN, JP, MX, US) – 2015
- Mandestrobin – fungicide (CA, US) – 2016***

*application completed in Canada and Australia

**application completed in the US and Australia

***application completed in Canada

Current Status

New Active Ingredient Joint Reviews

Currently there are seven global/NAFTA reviews ongoing

- Cyclaniliprole – insecticide (AU, CA, US)
- Pyriofenone – fungicide (CA, US)
- Tioxazafen – nematicide (CA, MX, US)
- Pydiflumetofen – fungicide (CA, MX, US)
- Tolpyralate – herbicide (CA, US)
- Triflumezopyrim – insecticide (US, CDPR, CA – workshare)
- Rinskor – herbicide (US, CN)

Projected New Active Ingredient Joint Reviews

- Seventeen new active ingredient global/NAFTA joint reviews are scheduled for submission in 2016 – 2019

Global Joint Review

- EPA and PMRA are currently conducting a retrospective analysis of what has worked well and what could be improved.
- In past, meeting to discuss the global joint reviews was held on outside of the OECD meeting.
 - Since EPA representative to OECD is no longer from Registration Division it is unclear as to where/when the planning meeting will be held in the future.

Global Joint Review

Shared Responsibility:

- Registrants or other petitioner's including IR-4 need to play an active role in addressing existing international MRLs when submitting their petitions [see GlobalMRL.com]
- When requesting U.S. tolerances, registrants should also have a plan for submission of same residue data to Canada, Codex, and other national authorities.
- When requesting crop group conversions consider international MRLs and look for opportunities to align.
- Use registration review process to identify trade irritants.

Pesticide Registration

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Minor Uses and Grower Resources

This web page provides growers, pesticide manufacturers (registrants) and other interested parties with information about EPA programs designed to ensure safe pesticide tools are available, particularly for those interested in pesticides for the minor uses. A major part of this effort involves the partnerships with other organizations and stakeholders.

On this page:

- [Minor Use Crops and Pesticides](#)
- [International MRLs](#)
- [NAFTA Minor Use Joint Reviews](#)
- [Crop Grouping](#)
- [Exclusive Use Periods](#)
- [Definition of a Minor Use](#)
- [Related Information](#)

Resources

Registration Information

- [Reduced Risk Pesticide Program](#)
- [Workplan for Registration](#)
- [Guidance on PRIA fee waivers and Exemptions](#)
- [IR-4](#) [Exit](#)

Tolerance/MRL Information

- [US Tolerances \(40 CFR Part 180\)](#)
- [Canadian MRLs](#) [Exit](#)
- [Codex MRLs](#) [Exit](#)
- [Index to Tolerance Information](#)

Minor Use Crops and Pesticides

Contact

Other Opportunities and Technical Assistance

- Chemical, Commodity, and Country-specific assistance
- International Visitors and bilateral assistance
- Trade negotiations

Update on: Crop Groupings

Phase IV – Crop Group Project for NAFTA Countries

- Crop groupings allow petitioners to request a tolerance for multiple related commodities based on research data on a representative crop
- The following petitions were proposed in *Federal Register* on November 14, 2014 and finalized *Federal Register* on May 3, 2016 under Phase IV of the Crop Grouping Project:
 - Leafy Vegetable Group 4-16
 - Head and Stem Brassica Vegetable Group 5-16
 - Stalk, Stem and Leaf Petiole Group 22
 - Tropical and Subtropical Fruit, Edible Peel Group 23
 - Tropical and Subtropical Fruit, Inedible Peel Group 24

Update on: Crop Groupings

Phase IV – Crop Group Project for NAFTA Countries

- This Final Rule is effective July 5, 2016 and:
 - added close to 300 new commodities
 - created three new crop groups
 - amended two crop groups.
- Additional information available at the docket for the Crop Group Project – Docket # EPA-HQ-OPP-2006-0766 at [Regulations.gov](https://www.regulations.gov)

Update on: Crop Groupings

- As part to the crop grouping effort, EPA plans to eventually convert any pre-existing, old crop group tolerances to the new groups.
- This conversion will be effected both through the registration review process and petitions to establish new tolerances for a pesticide.
- Crop group conversions and registration review are opportunities for EPA to harmonize MRLs.

Update on: Crop Groupings

Petitions Pending for Future Phase:

- Crop Group for Herbs and Spices (likely be two groups)
- Crop Group for Root and Tuber Vegetables
- Crop Group for Leaves of Root and Tuber Vegetables
- Crop Group for Legume Vegetables
- Crop Group for Foliage of Legume Vegetables
- Crop Group for Cucurbit Vegetables
- Crop Group for Cereal Grains and Forage, Fodder and Straw of Cereal

Update on: Other Initiatives

Harmonizing Crop Group MRLs

- [OECD-calculator](#): OECD members as well as JMPR/Codex have agreed to use same calculation procedures when establishing crop MRLs.
- However, regulatory procedures to establish crop group MRLs are **not** aligned.
 - US EPA / Canada PMRA: rule of 5X maximum values (“Rule of 5X Max”)
 - The MRL for each representative crop is calculated separately
 - ⇒ if within 5-fold, can be grouped into a crop group, with crop group MRL determined by residues in highest representative crop
 - JMPR: rule of 5X median values (“Rule of 5X Med”)
 - ratios of median residue values of representative crops
 - The established statistical Kruskal-Wallis or Wilcoxon-Mann-Whitney test

Update on: Other Initiatives

Harmonizing Crop Group MRLs (cont'd)

Why are there concerns?

- Differing criteria and methods used for setting crop group MRLs may lead to non-harmonized crop-group MRLs across countries for the same pesticide-commodity combination
 - This, despite use of (common) OECD MRL calculator
- US and Canada currently exploring this issue and most appropriate ways to determine if crops within a group should be combined
 - Currently, investigation is exploratory using synthetic data and is a work in progress
 - How big a difference is important?
 - How big a difference can we (reliably) detect?
 - What is the best (statistical) method to reliably detect any important difference
 - Goal: a harmonized approach for determining when representative crops within a crop group can be combined to establish a common crop group MRL.

Update on: Other Initiatives

Global Zoning

- Joint project between US EPA, PMRA, IR-4 and Crop Life America to investigate the question:

“How Important are Geographic Zones in Determining MRLs?”

- Currently, crop field trials are required to be conducted in a variety of (specified) zones
 - Zones are specific to each country/region

BUT:

Climatic (zonal?) differences may not have as much of an impact on residues as might be commonly or traditionally believed

-AND-

There may be a big advantage to MRL setting process in being able to combine field trials from across a larger (global) database

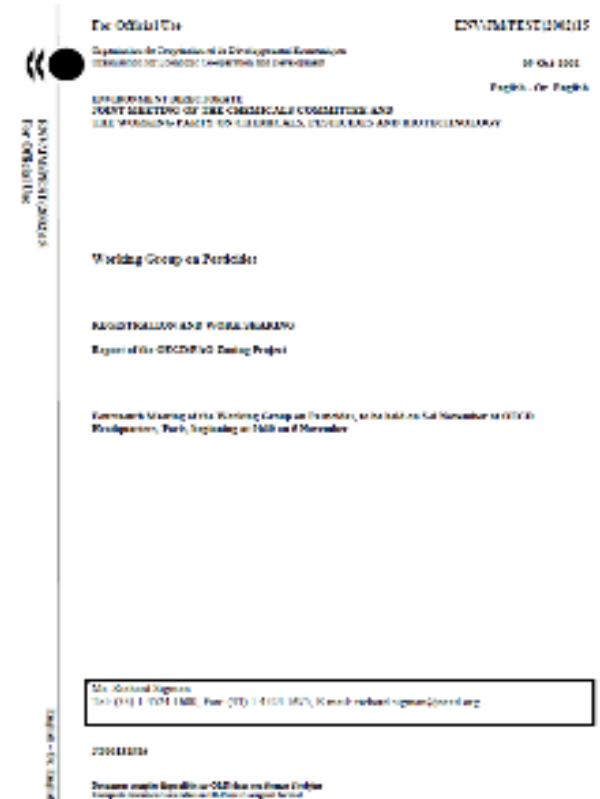
- save field trial review resources
- a more robust MRL can be estimated
- same data set = better harmonization

Update on: Other Initiatives

Global Zoning (cont'd)

Early History: Global Zones/Regions

- OECD has supported a zoning committee to study whether world-wide climatic zones could be established for food crop residue trials (2002)
 - Report of the OECD/FAO Zoning Project, 29 August 2002
- US EPA, PMRA, IR-4, and CLA have recently collaborated to investigate further the overall conclusions of the 2002 OECD report, using statistical methods that are now more commonly used to evaluate this kind of data



Update on: Other Initiatives

Global Zoning (cont'd)

QUESTION: Are there systematic differences in pesticide residue concentrations between zones?

- If not, residue data of a same crop-pesticide combination from various zones conducted under similar application/harvest scenarios and appropriate growing conditions could be combined to develop (international?) MRLs (possibly after adjusting for application rate)

Update on: Other Initiatives

Global Zoning (cont'd)

- Compared data from Australia, New Zealand, Europe, North America and South America and determined field trial residues between zones are NOT significantly different.
 - Also, separately compared Canada vs. US and EU-N vs. EU-S
- The results support use of residue data for global programs, and exchangeability between countries, to support MRL setting and harmonization.
- Results of these analysis have been presented to JMPR, CCPR, OECD
 - Next Step: Incorporation into OECD document

Results/Findings for **Global, US vs. Canada**, and **EU-N vs. EU-S** are detailed in [associated issue paper](#) available on Codex agenda page website

DRAFT
Technical Support Document on
Investigation of Global Exchangeability of Field Trial Residues

for

“Global Zoning & Exchangeability of Field Trial Residues Between Zones”

18 April 2016



Update on: Other Initiatives

GlobalMRL.com

- US EPA MRLs (aka “tolerances”) published in the electronic Code of Federal Regulations (40 CFR, 180, Subpart C) available at eCFR.gov
- eCFR has limited search capability – mostly textual
 - Good for “forward searches” by chemical
 - Can be difficult to reliably search in other directions
 - e.g., “backward search” by crop or crop group
=> *Strawberry* listed a dozen different ways

Update on: Other Initiatives

GlobalMRL.com (cont'd)

- US EPA and USDA have cooperatively funded Bryant-Christie, Inc. to make GlobalMRL.com available worldwide
 - Launched February 2015
 - Subscription currently “open access” to all for US tolerances (through December 2019)
 - Updated version of FAS-Online, MRLdatabase.com
 - Improved user interface (to include Excel downloads)
 - Includes veterinary drug tolerances, processed commodity MRLs, CFR-prescribed-use tolerances, and US import tolerances
 - User doesn't need to know that US MRLs for strawberries listed more than a dozen ways in eCFR
 - GlobalMRL.com “maps” each of these back to “strawberry”

Update on: Other Initiatives

GlobalMRL.com (cont'd)

- Requires users to login and register at <http://globalmrl.com>
 - US-based users: access to US MRLs and foreign *MRLs for which there are US tolerances*
 - Global perspective with MRLs available for over 800 active ingredients and 700 commodities in more than 100 countries
 - Non-US based users: access to US MRLs (including import MRLs) only
 - USEPA and USDA users: further enhanced access (Enterprise version)
- User selects Commodities, Pesticides, and Markets + additional optional filters
 - User guide and FAQs available to users

Update on: CCPR48

- CCPR 48 held in Chongqing China 23-30 April, 2016
 - The session was attended by
 - 49 Member countries,
 - one Member organization (the European Union)
 - Observers from nine international organizations

Update on: CCPR48

- The Committee reached consensus on a number of crop groups and advanced 393 MRLs at Step 5/8 for final adoption by the Codex Alimentarius Commission (CAC) at its next session in June 2016.
 - These MRLs are associated with 31 pesticides;
 - 286 and 107 MRLs forwarded for adoption are for plant and animal commodities, respectively
 - Crop Group or Subgroup MRLs accounted for 52 of the 393 MRLs forwarded for adoption.
 - Five of the seven new compounds reviewed by JMPR in 2015 were nominated by the United States.
- Official meeting report available on the Codex Alimentarius website at: <http://www.fao.org/fao-who-codexalimentarius/meetings-reports/en/> under CCPR48

Update on: CCPR48

- The CCPR also recommended revocation for 156 previously adopted MRLs
 - typically CXLs being replaced based on review of additional data, uses no longer supported, or CXLs deemed by JMPR to have potential dietary intake concerns with no alternative GAP.
 - seven draft CXLs for four pesticides were withdrawn from further consideration.

Update on: **CCPR48** Items of Specific Interest

- Revision of the *Codex Classification of Foods and Animal Feeds* is part of the ongoing effort to revise all of the crop groups.
 - The United States strongly supports this project and has co-chaired or chaired this working group from the start of this effort, and provided much of the documentation for the proposed crop groups.
- The Committee considered proposed amendments for the Crop Groups and Subgroups for pulses, legume vegetables, cucurbits, grasses of cereal grains, grasses for sugars or syrup production, and seeds for beverages and sweets.
 - Details provided in [final CCPR48 report](#) and [U.S. Codex Delegate's Report](#)
 - Two highlights
 - Cereal Grains
 - Cucurbits

Update on: **CCPR48** Items of Specific Interest

- eWG on ***Methods of Analysis for the Determination Pesticide Residues*** re-established in 2015 at the 47th CCPR
 - United States as chair and co-chairs from China and India.
- The eWG worked on several matters, including further revision of the eWG document ([CRD27](#)) in order to improve the layout for better flow of the information, and to incorporate consistent definitions and citations.
- The United States presented the main changes made to the Guidelines for consideration by the Committee.
 - The Committee generally agreed on the proposed revisions, which were mostly minor, involving editorial or formatting issues; however,
 - Several Delegations expressed the opinion that the changes made to the document should be reviewed further with national experts and other relevant stakeholders.
 - Therefore, the Committee agreed to forward the document to the CAC for adoption at Step 5, to allow for consideration at the next CCPR before final adoption.

Update on: **CCPR48** Items of Specific Interest

- eWG created to evaluate proposed modifications to IESTI (International Estimate of Short-term Intake) equation
 - Co-chaired by EU/Netherlands and Australia
 - Purpose: to identify advantages and challenges that might arise from the possible revision of the current IESTI equations and the impact on risk management, risk communication, consumer protection goals, and trade.
 - Revision includes changing from H(igh) R(esidue) to MRL in IESTI equation estimating exposure
 - Likely to lead to fewer MRL recommendations

Update on: **CCPR48** Items of Specific Interest

- Follow on from [WHO/FAO/EFSA-sponsored workshop](#) held in Geneva in September 2015
- The United States:
 - strongly supports a thorough look at the component inputs of the IESTI equations -- both current and proposed -- that focuses on better and more fully characterizing the degree of protection afforded by the equations.
 - Is eager to fully explore the potential impacts that changes to the IESTI equations may have on the number of MRLs that can be established, as well as impacts on risk management and risk communication.
- Several presentations made on this topic
 - By [EU representative](#)
 - Supplemented by [CRD03](#)
 - By [Crop Life America Representative](#)
 - Supplemented by [CRD15](#)

Update on: **CCPR48** Items of Specific Interest

- The WHO Representative also noted the need to
 - account for dietary exposures that are longer than daily, but shorter than lifetime,
 - more data such as processing studies in order to develop MRLs for animal feed items.

Update on: **CCPR48** Items of Specific Interest

- U.S. presented “side-event” talk entitled [“North American International Harmonization Efforts for Pesticides: an update on current status and activities”](#)
 - Covered 4 topics:
 - OECD Calculator: EPA and PMRA efforts
 - Global Zoning Project
 - Made available DRAFT document [“Global Zoning and Exchangeability of Field Trial Residues Between Zones”](#) on Codex website
 - Next step: OECD
 - Harmonizing Crop Group MRLs
 - [GlobalMRL.com](#) database

Summary

- OPP is involved in a number of international organizations and activities involving MRLs and MRL harmonization
- Global Joint Reviews can be an important means for producing globally-harmonized MRLs
- OPP is involved in a variety of science-based exploratory and other initiatives which are anticipated to assist in moving toward more globally-aligned MRLs:
 - Harmonizing crop group MRLs
 - Global Zoning
 - GlobalMRL.com

Summary

- OPP participated in CCPR48 was held in Chongqing China in April 2016
 - 393 MRLs (associated with 31 pesticides) were advanced to Step 5/8 for final adoption by the Codex Alimentarius Commission (CAC) at its next session in June 2016.
 - Five of the seven new compounds reviewed by JMPR in 2015 were nominated by the United States.
 - A number of general interest items with implications for CXLs were discussed

Thank you.